## Bio.12-Q1W6- Test.1.-Cyto- Cell Energy -

## **Multiple Choice**

Identify the choice that best completes the statement or answers the question.

 1.	ATP stores energy for use in several cellular fu	incti	ons. Which of the following does NOT require the			
	breakdown of ATP?					
	a. Enzyme production	с.	Bioluminescence			
	b. Diffusion	d.	Flagella movement			
 2.	Chlorophyll is the primary pigment in plant ch	loro	plasts. It absorbs all wavelengths of light, EXCEPT —			
	a. red.	c.	yellow.			
	b. green.	d.	All of the above			
 3.	In respiration, the final electron acceptor in the	ele	ctron transport chain is			
	a. hydrogen ions	c.	$H_2O$			
	b. oxygen	d.	ATP			
 4.	In glycolysis, molecules of ATP are use	d in	the first step, and molecules of ATP are produced in			
	the second step.					
	a. four, two	c.	four, four			
	b. two, two	d.	two, four			
 5.	The Calvin cycle produces a molecule that is a	ble t	to reenter the cycle as a reactant. Which of the following			
	molecules is used as a reactant in the beginning	g of	the Calvin cycle and is then produced at the end?			
	a. ATP	c.	Carbon dioxide			
	b. Phosphoglyceric acid	d.	Ribulose biphosphate			
 6.	Which sugar is a part of adenosine diphosphate	e?				
	a. adenine	c.	glucose			
	b. ribose	d.	glycogen			
 7.	Where is the electron transport chain located in	n the	light-dependent reactions?			
	a. Cytoplasm	c.	Thylakoid membrane			
	b. Nucleus	d.	Mitochondria			
 8. Energy is released from ATP when the bond is broken between						
	a. adenine and ribose	c.	adenine and a phosphate group			
	b. ribose and a phosphate group	d.	two phosphate groups			
 9.	Leaves appear green because the green portion	of t	he light that strikes them is			
	a. destroyed	c.	absorbed			
	b. changed to heat	d.	reflected			
 10.	Organisms need a way of storing energy becau	se_				
	a. a cell cannot create energy and must get it from elsewhere in the organism					
	b. a cell can't always immediately use all the	ener	gy it gets			
	c. an organism often has times when no energy	gy is	used			
	d. a cell can release only stored energy					
11.	The energy in glucose cannot be released by					
	a. burning	с.	photosynthesis			
	b. respiration	d.	glycolysis			
12.	Energy from sunlight is trapped by chlorophyll	l loc	ated in the			
	a. electron transport chain	с.	citric acid cycle			
	b. mitochondria	d.	thylakoid membranes			
			2			

 13.	Kidneys use energy to move molecules and ions in order to keep the blood chemically balanced. This process					
	is an example of cells using energy to					
	a. transmit impulses	c.	control body temperature			
	b. maintain homeostasis	d.	carry on chemosynthesis			
 14.	Which of the following processes is anaerobic?					
	a. Electron transport chain	c.	Glycolysis			
	b. Citric acid cycle	d.	All of the above			
 15.	Which of the following equations best represents photosynthesis?					
	a. $C + O_2 + H_2O \rightarrow CO_2 + HOH$	c.	$6\mathrm{CO}_2 + 6\mathrm{H}_2\mathrm{O} \rightarrow \mathrm{C}_6\mathrm{H}_{12}\mathrm{O}_6 + 6\mathrm{O}_2$			
	b. $6C + 6H_2O \rightarrow C_6H_{12}O_6$	d.	$C_6H_{12}O_6 \rightarrow 6CO_2 + 6H_2O$			
 16. Which of the following is a reactant in photolysis?						
	a. Oxygen	c.	Electron			
	b. Proton	d.	Water			
 17.	7. Which of the following is a product of photosynthesis?					
	a. Glucose	c.	Water			
	b. ATP	d.	Carbon dioxide			
 18.	Chlorophyll traps from sunlight.					
	a. energy	c.	glucose			
	b. oxygen	d.	hydrogen			
 19.	Cells store energy when					
	a. they break down sucrose to glucose and fr	ucto	se			
	b. the third phosphate group breaks off from	an A	TP molecule			
	c. a third phosphate group is bonded to an A	TP n	nolecule			
	d. ions are released into the bloodstream					
 20.	A green pigment that traps energy from sunlig	ht is				
	a. chlorophyll	с.				
	b. carotenoid	a.	thylakold membranes			
 _ 21. Where do the light-independent reactions of photosynthesis take place?						
	a. Stroma	с.	Thylakoid membrane			
	b. Cell wall	a.	Mitochondria			
 22.	The main energy-trapping molecule in plants is	s	·			
	a. chloroplast	С.	chlorophyll			
	b. stroma	a.	carotenoids			
 23.	Which of the following is <u>not</u> a part of adenosi	ne d	hphosphate?			
	a. glucose	С.	ribose			
	b. adenine	a.	two phosphate groups			
 24.	In the complete process of photosynthesis, the		·			
	a. Calvin cycle breaks down $H_2O$					
	<ul> <li>D. light reactions release oxygen</li> <li>Colvin cycle violde CO</li> </ul>					
	c. Calvin cycle yields $CO_2$	DII	· <b>TT</b> <sup>+</sup>			
	a. Ignt reactions produce NADP from NAD	rН	$+ \Pi$			

## Completion

Complete each statement.

- A. glycolysisB. photolysisC. citric acid cycleD. electron transport chainE. Calvin cycleF. light reactions
- 25. The anaerobic process of splitting glucose to form pyruvic acid is called \_\_\_\_\_\_.
- 26. The passing of electrons along a series of molecules, releasing energy as they go, is known as a(n)
- 27. A series of reactions in aerobic respiration that begins and ends with the same 6-carbon compound is the
- 28. The reactions in photosynthesis in which energy from the sun is converted to chemical energy are called
- 29. The splitting of water during photosynthesis is \_\_\_\_\_\_.
- 30. In photosynthesis, the series of reactions that synthesize simple sugars from carbon dioxide and hydrogen is known as the \_\_\_\_\_\_.

\_\_\_\_\_